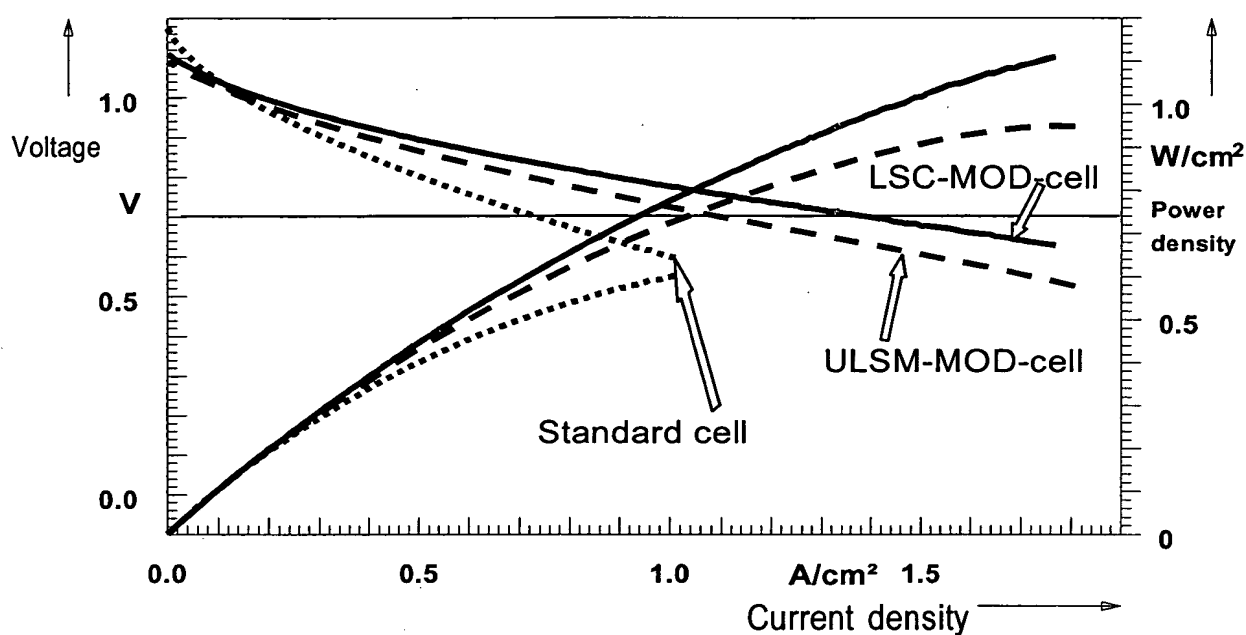


Figure 1: Schematic representation of a standard cell (left) and a cell (right) with modified cathode/electrolyte interface.



Standard cell:

ULSM 30 μ m|8YSZ 200 μ m|Ni/8YSZ 50 μ m

ULSM-MOD-Cell:

ULSM 30 μ m|ULSM-MOD 80nm|10YSZ particles|
8YSZ-Electrolyte 200 μ m|Ni/8YSZ 50 μ m

LSC-MOD-Cell:

ULSM 30 μ m|LSC-MOD 100nm|8YSZ particles|
8YSZ-Electrolyte 200 μ m|Ni/8YSZ 50 μ m

Figure 2: I/V Characteristic of single cells with different cathodes at 950°C.

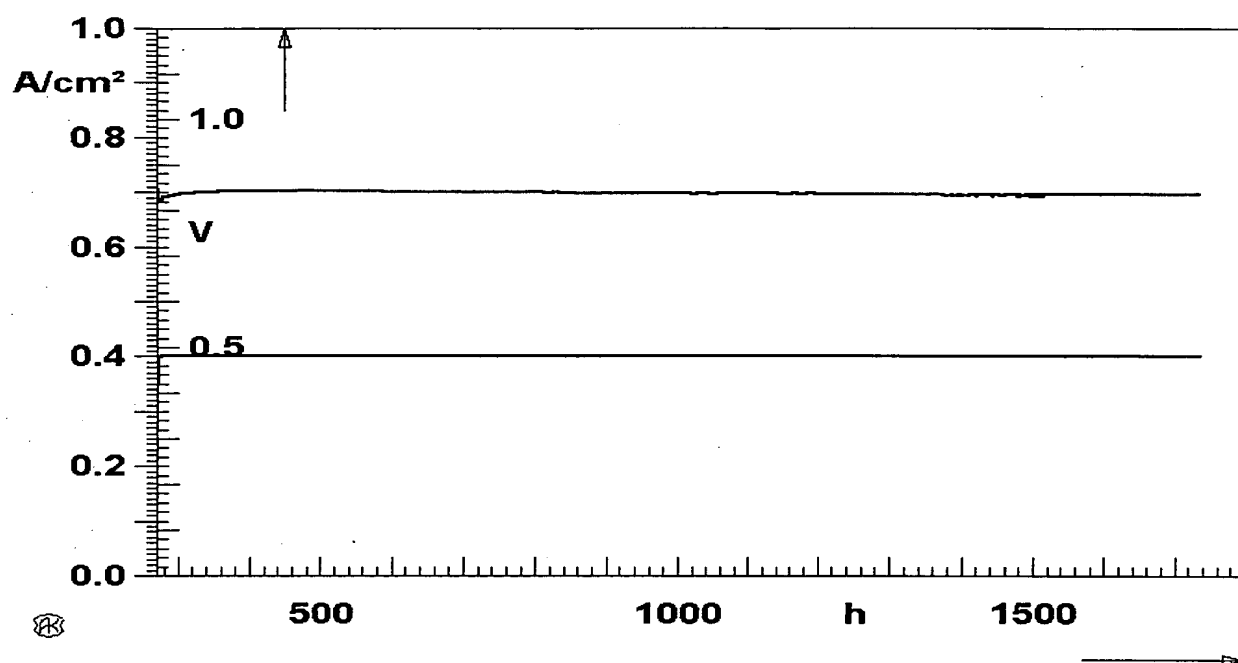


Figure 3: Long term operation of a single cell with modified ULSM-MOD cathode over 1800 h at 950°C (degradation rate: 4 mV/1000h).

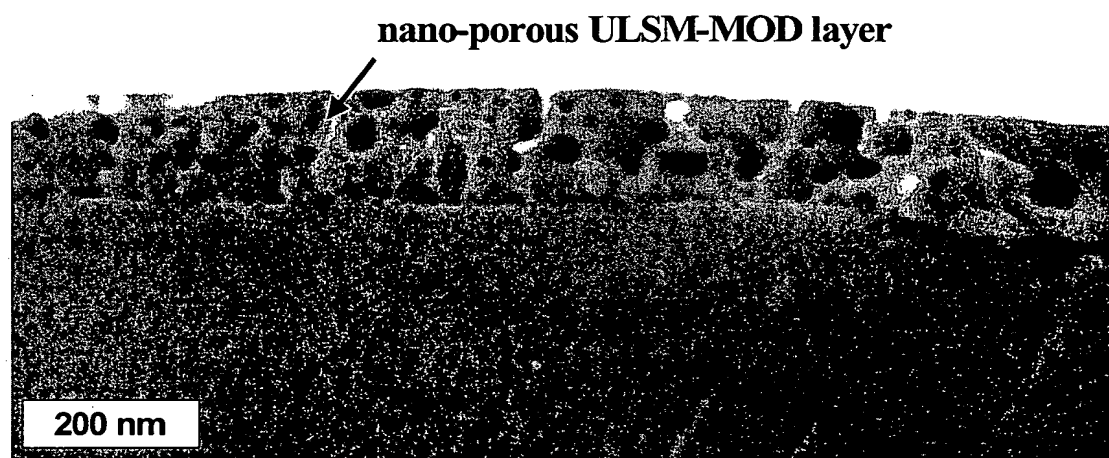


Figure 4: REM image of a nano-porous ULSM-MOD layer on a non-structured 8YSZ electrolyte.